PS1010-3A

IBBI Electronics

Multifunctional
Digital DC power supply

USER MANUAL

- Voltage controllability
- Current controllability
- Digital voltmeter function
- High power efficiency
- Bright display

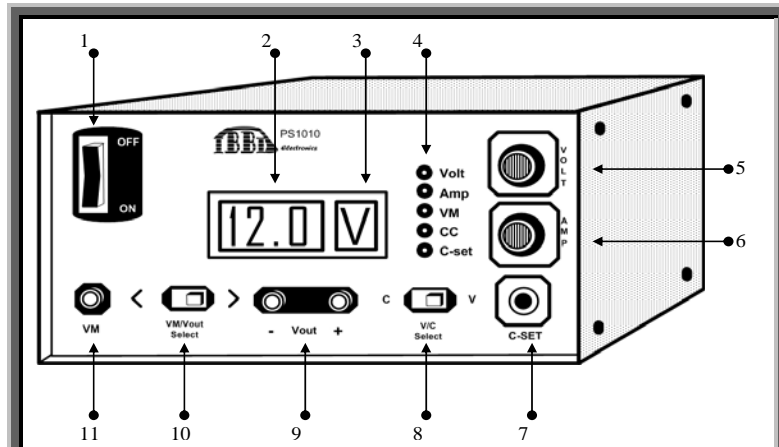# Table of Contents

1   Safety precautions

- Do not operate under Lightning conditions
- Do not keep in wet areas
- Always adjust required voltage/current, before connecting the power lines to the DUT

2   Device overview

PS1010 is a PWM controlled highly power efficient digital power supply. The features extend to;

- Voltage controllability
- Current controllability
- Measuring voltage at any point in the device/circuit under test while powered from the PS1010-3A
- Measuring voltage at any out side source such as a battery or any other voltage point
- Display capability of any of the followings
  - Out put voltage
  - Actual current flow
  - SET Current limit
  - Voltage as a voltmeter
  - Firmware version/Error codes

3   Getting started

1. Power switch
2. Display-value
3. Display-unit/information
4. LED panel
5. Output voltage controller
6. Current limit controller
7. C-limit display selection
8. Voltage-Current display selection
9. Voltage out put terminal
10. Voltmeter-V/C display selection
11. Voltmeter + terminal

4   Operating conditions

	Unit
Input voltage	230V AC
Input frequency	50Hz
Out put voltage	0-30V
Out put current	0-3A

Voltmeter range	0-35V

5   Device operation

5.1 Setting output voltage

- Put VM/Vout switch [(10)] to Vout position
- Put C/V switch [(8)] to V position
- Volt LED indicator will light up [(4)]
- [(3)] will display "U" for Volt
- Adjust the voltage controller [(5)] to get the required value.
- The value will be displayed on [(2)] with one decimal place

Note: Make sure to keep reasonable current limiting value before setting output voltage so that current control (CC) will not take over.

5.2 Setting current limit

- Press and hold C-SET button [(7)].
- Then display[(2)] will show the present current limit in Amperes.
- [(3)] will display "A" for Current
- Now rotate the current controller knob [(6)] while looking at the display. Stop when the desired value appears.

Note: The output voltage will be automatically be controlled if the external device tries to drag current more than the set limit.

5.3 Viewing actual current flow
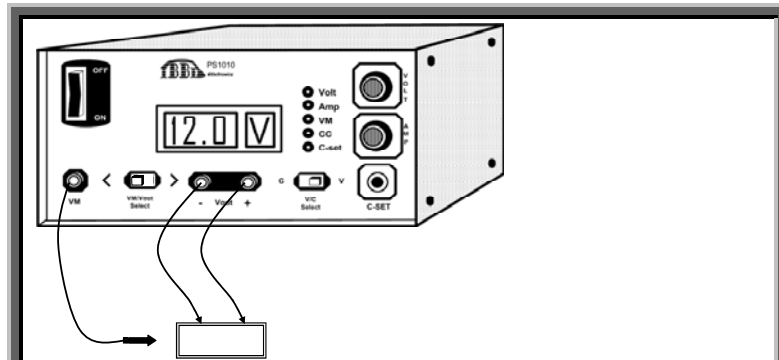
- Power up the DUT with PS1010-3A

- Put VM/Vout switch [(10)] to Vout position
- Put C/V switch [(8)] to C position
- Amp LED indicator will light up [(4)]
- [(3)] will display "A" for Ampere
- Actual current value will be displayed on [(2)] with two decimal places

5.4 Voltmeter mode

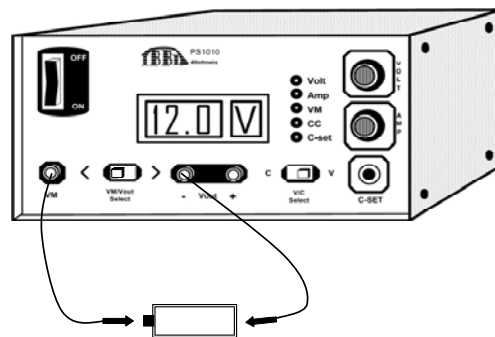### 5.4.1 Measuring voltage at various positions while powered from the PS1010-3A

- Set required output voltage and power up the DUT
- Put VM/Vout switch [(10)] to VM position. VM LED indicator [(4)] will light up.
- Test voltage values using the VM probe [(11)]. The voltage values are displayed relative to the GND pin of the Vout terminal [(9)].

Note: the user can select various switch positions at any time to see the Current limit, Actual current flow, voltage at output terminals or at VM without disrupting the power at the output terminals.

5.4.2 Measuring voltages at external sources

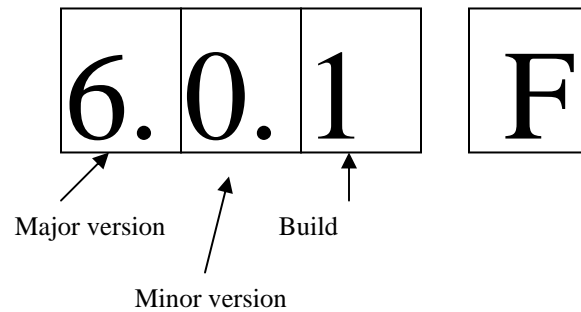- Put VM/Vout switch [(10)] to VM position. VM LED indicator [(4)] will light up
- Connect wires as shown below(VM terminal and the GND of Vout terminals)
- Value will be displayed [(2)].

5.5 Viewing firmware version

- Switch OFF the PS1010 [(1)]
- Put VM/Vout switch [(10)] to VM position
- Press and hold the C-SET button

- Switch ON the PS1010-3A [(1)]
- [(3)] will show "F" to indicate Firmware version
- Display [(2)] will show the Firmware version in the following order.

$$6.0.1 \quad F$$

Major version   Build

Minor version

Note: PS1010-3A is not firmware upgradeable by the customer.

6 Troubleshooting

No display
- Check power cable/Input power
- Check power switch [(1)]
- Check fuse at the back of the PS1010

Even if the voltage adjust knob is turned the value does not vary.
- Check whether the Volt LED indicator [(4)] is ON. If not then you are not in the right set up and follow up on how to setting the output voltage guide lines
- Check whether the CC LED indicator [(4)] is ON. If so then the current limiting occurs due to insufficient current limit adjustment or due to excessive current draw.

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PS1010 is in its current mode and the Amp indicator is also ON. But rotating current controller knob does not affect the display value.

- You are at the current mode and at this mode the display shows only the actual current draw by the DUT. But rotating the current controller knob means changing the Max current limit. To see the max current limit, C-SET button should be pressed.

Cannot increase voltage from a certain value.

- Check whether CC indicator appears. If so, increase the current limit.

7 General information

Terminology

DUT- Device Under Test

Warranty terms and conditions:

Warranty will apply only for the circuit but not for any other. Warranty will void if case was previously open or attempted to repair. Under any physical damages, damages caused by lightning or due to miss-use conditions, the warranty will not be applicable. The customer must fill the Warranty activation card and post it to IBBI Electronics to receive within 14 days of purchase or mail a scanned copy.

Customers are not encouraged to do any repair from out side even if the warranty expires.

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